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EXAMINER

DENNISON, JERRY B

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/601,237	Applicant(s) BOUCHER ET AL.	
	Examiner J Bret Dennison	Art Unit 2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33-40 and 58-62 is/are allowed.
- 6) ☒ Claim(s) 1-29, 31-32, 41-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Action is in response to the Amendment for Application Number 10/601,237 received on 6/14/2010.
2. Claims 1-29, 31-62 are presented for examination.
3. Claim 30 has been cancelled.

Claim Objections

4. Claims 1, 13, 24, 32, 33, 53 objected to because of the following informalities: Claims 1, 13, 24, 32, 33, 53 recite the limitation, "said packet the according", which appears to include a grammatical error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-29, 31-32, 38, 41, 46, 53, 54, 57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 1 recites the limitation, "associating an operation code with said first packet, wherein said operation code indicates a status of said first packet, including whether said packet is to be transferred to the host computer system for processing in accordance with said pres-selected protocol". Claim 1 then recites the limitation "processing, by the network interface, said packet the according to the TCP

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connection.” It is unclear what the purpose is of determining whether said packet is a candidate for transfer to the host that avoids processing in accordance with said pre-selected protocol, when the next limitation always processes the packet. It appears to defeat the entire purpose of determining whether to avoid processing or not, when the following limitation always processes the packet. Claims 13, 24, 53 are rejected for the same reasoning.

7. Claim 32 recites the limitation, “processing, by the network interface, said packet the according to the TCP connection”. The claim then follows with the limitation, “if the host computer system contains a plurality of processors such that a first of the processors is on the network interface and a second of the processors is on the host computer, identifying a processor of the first and second processors to process said packet”. These limitations are unclear as it appears that the first mentioned limitation always requires the network interface to process the packet, and then in the second mentioned limitation, a determination is made as to whether the processor on the network interface does the processing or the processor on the host does the processing. It is unclear as to why this determination is being made, as it appears the processing has already been performed by the network interface before this determination. Claim 38 and 54 are rejected for the same reasoning.

8. Claim 32 recites, “A method of transferring a packet received at a network interface to a host computer system”. The amended limitation recites, “if the host

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computer system contains a plurality of processors such that a first of the processors is on the network interface". The preamble differentiates the network interface and the host computer system as two separate elements. Therefore it is unclear how one of the host computer system's processors can be on the network interface.

9. All dependent claims are also rejected herein as they include the limitations of their base claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-12, 14-17, 20-29, 31, 42-44, 46-53, 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flanders et al. (US 6172980).

11. Regarding claims 1, 24, 53, Flanders disclosed a method of transferring a packet to a computer system, wherein the packet is received at a communication device from a network (Flanders, col. 1, lines 39-41, a network router receiving and routing packets), comprising:

parsing a header portion of a first packet received at a communication device to determine if said first packet conforms to a pre-selected protocol (Flanders, col. 3, lines

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60-65, "RHP (Receive Header Processor) determines the protocol being used for the received data unit"; See also col. 6, lines 50-51);

generating a flow key to identify a first communication flow that includes said first packet wherein said flow key includes a TCP connection for the communication flow (Flanders, col. 6, line 50 through col. 7, line 5, port information extracted from the received frame in order to classify packet according to flow ID, the information extracted from the packet used as a flow key to look the packet up, including IP protocol types, including TCP);

routing the packets to their destination (Flanders, col. 1, lines 50-55, Flanders disclosed the router making forwarding decisions to route the packet, see also Abstract, "identifying a data unit to be routed by a router)

associating an operation code with said first packet, wherein said operation code indicates a status of said first packet, including whether said packet is to be transferred to the host computer system for processing in accordance with said pre-selected protocol (Flanders, col. 4, lines 22-35, 50-63 Flanders disclosed the RHP determining whether the packet is to be routed or bridged and performing protocol processing on the packet when it is to be routed based on bytes).

Flanders further disclosed forwarding the packets for receipt by a downstream network device (Flanders, col. 9, lines 40-43).

Flanders did not explicitly state transferring processing, by the network interface, said packet according to the TCP connection.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that since the router of Flanders clearly routes the packet to a network device, that the network device must perform the proper protocol processing on the packet in order to properly interpret the information from that packet. For example, using the very well known TCP/IP protocol, in order for two computers to successfully communicate via TCP/IP (Flanders, Fig. 6), both computers must protocol process the TCP/IP packets, which are clearly routed through the Internet, via routers such as the one described by Flanders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpret the routing of a packet to its destination to include that destination performing the proper protocol processing in order to obtain the predictable result of the destination device being able to successfully interpret that packet at the receiving end, thereby resulting in successful communication.

Claim 24 includes a method with limitations that are substantially similar to the limitations of claim 1, and is therefore rejected under the same rationale. Claim 53 recites a computer readable storage medium storing instructions that perform the method of claim 1. Therefore claims 24, 53 are rejected under the same rationale.

12. Regarding claim 2, Flanders disclosed the limitations as described in claim 1, including wherein said parsing comprises: copying a header portion of said first packet into a header memory; and examining said header portion according to a series of

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parsing instructions; wherein said parsing instructions are configured to reflect a set of pre-selected communication protocols (col. 3, lines 45-65).

13. Regarding claim 3, Flanders disclosed the limitations as described in claim 2. Flanders did not explicitly wherein said parsing instructions are updateable. However, it would have been obvious to any programmer or designer at the time the invention was made that any instructions carried out by a machine are updateable, as any software or hardware could be updated in order to accommodate the desires of the programmer/designer.

14. Regarding claim 4, Flanders disclosed the limitations as described in claim 2, including copying a value from a field in a header of said header portion (Flanders, col. 6, lines 50-56).

15. Regarding claim 5, Flanders disclosed the limitations as described in claim 1, including wherein said parsing comprises: extracting an identifier of a source of said first packet from said header portion; and extracting an identifier of a destination of said first packet from said header portion (Flanders, col. 3, lines 55-60).

16. Regarding claim 6, Flanders disclosed the limitations as described in claim 5, including combining said source identifier and said destination identifier (Flanders, col. 3, lines 55-60).

17. Regarding claim 7, Flanders disclosed the limitations as described in claim 1, including

wherein said generating comprises retrieving an identifier of a communication connection from said header portion (Flanders, col. 6, lines 49-60).

18. Regarding claim 8, Flanders disclosed the limitations as described in claim 1, including storing said first packet in a packet memory prior to said transferring (Flanders, col. 3, lines 45-55).

19. Regarding claim 9, Flanders disclosed the limitations as described in claim 1, including storing said flow key in a flow database, wherein said flow database is configured to facilitate management of said first communication flow (Flanders, col. 6, lines 50-65, "Flow Filtering Table").

20. Regarding claim 10, Flanders disclosed the limitations as described in claim 9, including associating a flow number with said first packet, wherein said flow number comprises an index of said flow key within said flow database (Flanders, col. 6, lines 50-65, "Flow ID").

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21. Regarding claim 11, Flanders disclosed the limitations as described in claim 10, including storing said flow number in a flow memory (Flanders, col. 6, lines 50-65, "Flow ID" is stored in the table).

22. Regarding claim 12, Flanders disclosed the limitations as described in claim 9, including updating an entry in said flow database associated with said flow key when a second packet in said first communication flow is received (Flanders, col. 6, line 65 through col. 7, line 15).

23. Regarding claim 14, Flanders disclosed the limitations as described in claim 1, including wherein said associating comprises: retrieving one or more header fields of said header portion; and analyzing said header fields to determine said status of said first packet (Flanders, col. 7, lines 1-15).

24. Regarding claim 15, Flanders disclosed the limitations as described in claim 14, including wherein said analyzing comprises: determining whether said first packet includes a data portion; and if said first packet includes a data portion, determining whether said data portion exceeds a pre-determined size (Flanders, col. 4, lines 30-40).

25. Regarding claim 16, Flanders disclosed the limitations as described in claim 14, including wherein said analyzing comprises determining whether said first packet was

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received out of order in said first communication flow (Flanders, Fig. 6, TCP which is enabled for out of order packets).

26. Regarding claim 17, Flanders disclosed the limitations as described in claim 1, including storing said operation code in a control memory (Flanders, col. 7, lines 1-15).

27. Regarding claim 20, Flanders disclosed the limitations as described in claim 1, including determining whether a second packet received from said network is part of said first communication flow (col. 6, lines 50-65).

28. Regarding claim 21, Flanders disclosed the limitations as described in claim 20, including maintaining a packet memory configured to store one or more packets received from said network (col. 3, lines 45-55); maintaining a flow memory configured to store, for each of said one or more packets, an identifier of a communication flow comprising said packet (col. 6, lines 50-65); and searching said flow memory for a first identifier of said first communication flow (col. 6, lines 50-65).

29. Regarding claim 22, Flanders disclosed the limitations as described in claim 21, including wherein said first identifier comprises said flow key (col. 6, lines 50-65).

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30. Regarding claim 23, Flanders disclosed the limitations as described in claim 21, including wherein said first identifier comprises a flow number of said first packet, wherein said flow number is an index of said flow key within a flow database (col. 6, lines 50-65).

31. Regarding claim 25, Flanders disclosed the limitations as described in claim 24, including transferring said TCB from said host computer system to said communication device (col. 6, lines 50-65).

32. Regarding claim 26, Flanders disclosed the limitations as described in claim 24, including receiving a second packet from a second communication flow; and processing said second packet by said communication device in accordance with said TCB (col. 6, lines 50-60, all packets received go through the same process if they are part of the same flow).

33. Regarding claim 27, Flanders disclosed the limitations as described in claim 1, including alerting said host computer system to the arrival of said first packet (col. 9, lines 40-45).

34. Regarding claim 28, Flanders disclosed the limitations as described in claim 1, including maintaining a packet memory configured to store packets received from said network (col. 3, lines 47-55). Flanders did not explicitly state randomly discarding a

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packet if said packet memory contains a pre-determined level of traffic. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that buffered packets would be discarded as new packets arrive at the buffer, especially during the case that the buffer is completely filled, i.e. the packet memory contains a predetermined traffic level, in order to make room for new arriving packets and to allow the router to continue to operate properly.

35. Regarding claim 29, Flanders disclosed the limitations as described in claim 1, including wherein said parsing includes determining, by hardware of the communication device, a protocol of the header (col. 3, lines 50-60). Flanders also clearly disclosed the teaching of multiple protocol support.

The teachings of Flanders does not limit itself to any particular type of protocol. This would have motivated one of ordinary skill in the art to implement the teachings of Flanders with any protocol well known in the art.

The session layer is a well known layer from the OSI model. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the session protocol within the teachings of Flanders since in order to make the teaching of Flanders scalable across well known protocols, thereby increasing its customer's desirability of use.

36. Regarding claim 31, Flanders disclosed the limitations as described in claim 1, including wherein said communication device is a network interface (Fig. 1).

37. Regarding claims 42 and 44, Claim 42 includes an apparatus with a memory and modules to perform the limitations that are substantially similar to claim 1 and claim 44 recites a computer system with limitations that are substantially to claims 1. Claims 42 and 44 further includes a “flow re-assembler configured to re-assemble a data portion of said first packet with a data portion of second packet in said communication flow and storing both packets in memory as well as a processor to process said packet and maintain a TCP connection for the flow. As shown in the rejection of claim 1, Flanders disclosed a router performing these limitations.

Flanders did not explicitly state flow re-assembler configured to re-assemble a data portion of said first packet with a data portion of second packet in said communication flow and storing both packets in memory of the downstream network device.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that since the router of Flanders clearly routes the packets belonging to a particular flow to a network device, that the network device must perform the proper protocol processing on the packets in order to properly interpret the information from that packet, thereby requiring storing of the packet data and combining the data to properly interpret the flow. For example, using the very well known TCP/IP protocol, in order for two computers to successfully communicate via TCP/IP (Flanders, Fig. 6), both computers must protocol process the TCP/IP packets, which are clearly routed through the Internet, via routers such as the one described by Flanders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpret the routing of a packets to their destination to include that destination actually storing the packet data in order to perform the proper protocol processing in order to obtain the predictable result of the destination device being able to successfully interpret/batch that data from the packets at the receiving end, thereby resulting in successful communication. For example, the routing of a file that requires multiple packets to be sent in order to transmit the entire file across the network, which requires the receiving end to properly protocol process the packets that make up the file and re-assemble the data portions in order for communication of the file to properly occur.

38. Regarding claim 43, Flanders disclosed the limitations as described in claim 42, including wherein said traffic classifier comprises: a parser configured to parse a header portion of said first packet; a flow database configured to store a flow key identifying said communication flow; and a flow database manager configured to manage said flow database; wherein said flow key is generated from an identifier of a source of said first packet and an identifier of a destination of said first packet (Flanders, Flanders, col. 6, line 50 through col. 7, line 5, port information extracted from the received frame in order to classify packet according to flow ID, the information extracted from the packet used as a flow key to look the packet up, see also col. 1, lines 50-61).

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39. Regarding claim 46, Flanders disclosed the limitations as described in claim 1, wherein said operation code indicates whether the packet corresponds to Transport Control Protocol (TCP) (Flanders, col. 7, lines 10-15).

40. Regarding claim 47, Flanders disclosed a device for receiving a packet from a network and transferring the packet to a host computer system, comprising:

a parser configured to parse a header portion of a packet received from a network, wherein said parsing comprises: determining whether a header within said header portion conforms to one of a set of communication protocols (Flanders, col. 3, lines 60-65, "RHP (Receive Header Processor) determines the protocol being used for the received data unit"; See also col. 6, lines 50-51); and

if said header conforms to one of said communication protocols, extracting information from said header portion to identify a communication flow to which said packet belongs (Flanders, col. 6, line 50 through col. 7, line 5, port information extracted from the received frame in order to classify packet according to flow ID, the information extracted from the packet used as a flow key to look the packet up); a flow memory configured to store a flow identifier for identifying said communication flow; a flow manager configured to assign an operation code to said packet, wherein said operation code: indicates a status of said packet; and indicates a manner of transferring said packet to the host computer system; a packet memory configured to store said packet wherein said device maintains a TCP connection for the communication flow (Flanders, col. 6, line 65 through col. 7, line 15, in accordance with the received frame, a status word is set; see

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also, col. 4, lines 15-23. Flanders further disclosed forwarding the packets for receipt by a downstream network device; col. 9, lines 40-43) as well as a Flow filtering Table col. 6, lines 50-67).

Flanders did not explicitly state transferring said first packet to the disclosed device system for processing in accordance with said pre-selected protocol. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that since the router of Flanders clearly routes the packet to a network device, that the network device must perform the proper protocol processing on the packet in order to properly interpret the information from that packet. For example, using the very well known TCP/IP protocol, in order for two computers to successfully communicate via TCP/IP (Flanders, Fig. 6), both computers must protocol process the TCP/IP packets, which are clearly routed through the Internet, via routers such as the one described by Flanders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpret the routing of a packet to its destination to include that destination performing the proper protocol processing in order to obtain the predictable result of the destination device being able to successfully interpret that packet at the receiving end, thereby resulting in successful communication.

Flanders also did not explicitly state wherein said device is coupled to the host computer system by a bus. However it well known to one of ordinary skill that a bus is a device that is used to connect various computers/devices in a network. Since the router and end node is connected by a network, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to couple these devices via a bus thereby making the system scalable towards already well known devices.

41. Regarding claim 48, Flanders disclosed the limitations as described in claim 47, wherein the device is a network interface (Flanders, Abstract).

42. Regarding claim 49, Flanders disclosed the limitations as described in claim 47, said flow memory comprising a flow database configured to store a flow key, wherein said flow key is assembled from an identifier of a source of said packet and an identifier of a destination of said packet (Flanders, col. 6, line 50 through col. 7, line 5, port information extracted from the received frame in order to classify packet according to flow ID, the information extracted from the packet used as a flow key to look the packet up; col. 1, lines 50-67).

43. Regarding claim 50, Flanders disclosed the limitations as described in claim 47, wherein said flow manager is further configured to update said flow memory as additional packets in said communication flow are received from the network (Flanders, col. 6, lines 50-67, col. 7, lines 1-5).

44. Regarding claim 51, Flanders disclosed the limitations as described in claim 47, said flow memory comprising a flow memory configured to store a flow number, wherein

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said flow number comprises an index of said communication flow in a flow database (Flanders, col. 6, lines 50-67, col. 7, lines 1-5).

45. Regarding claim 52, Flanders disclosed the limitations as described in claim 47, further comprising a control memory configured to store said operation code (Flanders, col. 7, lines 1-5).

46. Regarding claim 55, Flanders disclosed the limitations as described in claim 47, wherein said transfer module is configured to transfer a data portion of said packet into one of a set of host memory areas in accordance with said operation code (Flanders, col. 7, lines 1-15).

47. Regarding claim 56, Flanders disclosed the limitations as described in claim 47. Flanders did not explicitly state further comprising a packet batching module configured to determine whether said packet memory contains another packet in said communication flow.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that since the router of Flanders clearly routes the packets belonging to a particular flow to a network device, that the network device must perform the proper protocol processing on the packets in order to properly interpret the information from that packet, thereby requiring storing of the packet data and combining the data to properly interpret the flow. For example, using the very well known TCP/IP

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protocol, in order for two computers to successfully communicate via TCP/IP (Flanders, Fig. 6), both computers must protocol process the TCP/IP packets, which are clearly routed through the Internet, via routers such as the one described by Flanders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpret the routing of a packets to their destination to include that destination actually storing the packet data in order to perform the proper protocol processing in order to obtain the predictable result of the destination device being able to successfully interpret/batch that data from the packets at the receiving end, thereby resulting in successful communication. For example, the routing of a file that requires multiple packets to be sent in order to transmit the entire file across the network, which requires the receiving end to properly protocol process the packets that make up the file and re-assemble the data portions in order for communication of the file to properly occur.

48. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flanders et al. (US 6172980) in view of Lincoln (US 5991265).

49. Regarding claim 18, Flanders disclosed the limitations as described in claim 1, including processing of the header at a Receive Header Processor (Flanders, col. 1, lines 50-60).

Flanders did not explicitly state storing the data portion in a re-assembly storage area and one or more headers in a header storage area.

In an analogous art of packet processing, Lincoln disclosed packet processing in which the system transfers the cell payloads to a reassembly memory while processing the headers from control memory and then combining the header and payload before transferring the cell (Lincoln, col. 5, lines 30-40). As such, Lincoln provides evidence that it is well known to divide packets between header and payload in order to perform header processing of the packets.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the splitting of packet header and payload as performed in the teachings of Lincoln in order to provide the system of Flanders in order to reduce the amount of data to be analyzed by the RHP in order to process the headers in a more efficient manner.

50. Claims 32, 45, 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flanders et al. (US 6172980) in view of Seno et al. (US 5590328).

51. Regarding claim 32, Flanders disclosed a method of transferring a packet received at a network interface to a host computer system, comprising:

receiving a packet from a network, storing said packet in a packet memory and parsing a header portion of said packet; extracting a value stored in said header portion; identifying a communication flow comprising said packet, wherein said flow includes a TCP connection and a first MAC layer address(Flanders, col. 3, lines 60-65, “RHP (Receive Header Processor) determines the protocol being used for the received

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data unit”; See also col. 6, lines 50-51; col. 6, line 50 through col. 7, line 5, and col 7, lines 15-20, port information extracted from the received frame in order to classify packet according to flow ID, the information extracted from the packet used as a flow key to look the packet up);

determining whether a header in said header portion conforms to a pre-selected protocol (Flanders, col. 3, lines 60-65, “RHP (Receive Header Processor) determines the protocol being used for the received data unit”);

determining whether a second packet in said packet memory is part of said communication flow (Flanders, col. 1, lines 39-40, Flanders disclosed performing the same for multiple received data units); and

processing, by the network interface, said packet the according to the TCP connection (Flanders, col. 9, lines 40-43);

if the host computer system contains a plurality of processors such that a first processor of the processors is on the network interface and a second of the processors is on the host computer, identifying a processor of the first and second processors to process said packet (Flanders, col. 4, lines 22-35, 50-63 Flanders disclosed the RHP determining whether the packet is to be routed or bridged and performing protocol processing on the packet when it is to be routed based on bytes, therefore determining whether the interface processes the packet or if it is sent to the end device for processing).

Flanders further disclosed forwarding the packets for receipt by a downstream network device (Flanders, col. 9, lines 40-43)

Flanders did not explicitly state the step of storing said packet in a host memory area in the downstream network device.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that since the router of Flanders clearly routes the packet to a network device, that the network device must perform the proper protocol processing on the packet in order to properly interpret the information from that packet, thereby requiring storing of the packet. For example, using the very well known TCP/IP protocol, in order for two computers to successfully communicate via TCP/IP (Flanders, Fig. 6), both computers must protocol process the TCP/IP packets, which are clearly routed through the Internet, via routers such as the one described by Flanders.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to interpret the routing of a packet to its destination to include that destination actually storing the packet in order to perform the proper protocol processing in order to obtain the predictable result of the destination device being able to successfully interpret that packet at the receiving end, thereby resulting in successful communication.

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52. Regarding claim 45, Flanders disclosed the limitations as described in claim 42.

Flanders also did not explicitly state wherein, comprising: a load distributor for identifying a first processor within the host computer system for processing said first packet and said second packet; wherein said load distributor identifies a second processor in the host computer system for processing a packet from a different communication flow.

In an analogous art, Seno disclosed a protocol parallel processing device in which the device determines which processor, among which of multiple processors, to process the packet according to the communication (Seno, col. 2, lines 35-65).

One of ordinary skill in the art would have been motivated to combine the teachings of Flanders and Seno since both teachings involve protocol processing of packets, and as such, both are within the same environment.

Therefore it would have been obvious to one of ordinary skill in the art to incorporate the “multiple processors” teaching as disclosed by Seno into the teachings of Flanders in order to distribute communications across multiple processors, thereby improving efficiency of routing data through the router as the load is distributed among multiple processors, while also increasing throughput (Seno, col. 2, lines 15-35).

53. Regarding claim 54, Flanders disclosed the limitations as described in claim 47.

Flanders did not explicitly state wherein said host computer system is a multi-processor host computer system, further comprising a load distributor configured to select one of

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said multiple processors for processing said packet in accordance with one of said communication protocols.

In an analogous art, Seno disclosed a protocol parallel processing device in which the device determines which processor, among which of multiple processors, to process the packet according a protocol (Seno, col. 2, lines 35-65).

One of ordinary skill in the art would have been motivated to combine the teachings of Flanders and Seno since both teachings involve protocol processing of packets, and as such, both are within the same environment.

Therefore it would have been obvious to one of ordinary skill in the art to incorporate the “multiple processors” teaching as disclosed by Seno into the teachings of Flanders in order to distribute communications across multiple processors, thereby improving efficiency of routing data through the router as the load is distributed among multiple processors, while also increasing throughput (Seno, col. 2, lines 15-35).

Allowable Subject Matter

54. Claims 33-40 would be allowable if the objection to claim 33 is corrected. Claims 58-62 are allowed.

Response to Amendment

Applicant's arguments and amendments filed on 6/3/2011 have been carefully considered but they are not deemed fully persuasive.

In view of Applicant's arguments over the newly amended independent claims, Applicant is respectfully requested to review the 112 2nd rejections, provided above.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant's has not clearly pointed out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited. Applicant merely asserts that the language of the newly amended claims is not taught. Therefore, the Applicant has failed to rebut the Examiner's rejection of the claim with any persuasive analysis. Instead, Applicant grounds their argument on a conclusory assertion. This form of argument is wholly ineffective in demonstrating error in the Examiner's prima facie case to establish the patentability of the claims. See *Ex parte Belinne*, No. 2009-004693, slip op. at 7-8 (BPAI Aug 10, 2009)(informative),

It is the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art.

Failure for Applicant to significantly narrow definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response and reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Bret Dennison whose telephone number is (571) 272-3910. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J Bret Dennison/
Primary Examiner, Art Unit 2443